

80789771 - agriculture victoria.ST25  
SEQUENCE LISTING

<110> Agriculture Victoria Services Pty Ltd  
Australian Centre for Plant Functional Genomics Pty Ltd  
<120> Modification of plant response to freezing and low temperature  
stress  
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<151> 2003-11-24  
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&lt;213&gt; Deschampsia antarctica

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100 105 110Gly Thr Asn Asn Ser Val Arg Phe Gly Arg Asn Asn Ala Leu Ala Gly  
115 120 125Asn Asp Asn Thr Val Ile Ser Gly Asn Asn Asn Thr Val Ser Gly Ser  
130 135 140Phe Asn Thr Val Val Ile Gly Ser Asp Asn Ile Ile Thr Gly Ser Lys  
145 150 155 160His Val Val Ser Gly Arg Lys His Ile Val Thr Asp Asn Asn Asn Lys  
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&lt;211&gt; 449

&lt;212&gt; DNA

&lt;213&gt; Deschampsia antarctica

&lt;400&gt; 18

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&lt;211&gt; 449

&lt;212&gt; DNA

&lt;213&gt; Deschampsia antarctica

&lt;400&gt; 19

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&lt;211&gt; 449

&lt;212&gt; DNA

&lt;213&gt; Deschampsia antarctica

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&lt;211&gt; 449

&lt;212&gt; DNA

&lt;213&gt; Deschampsia antarctica

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&lt;211&gt; 92

&lt;212&gt; PRT

&lt;213&gt; Deschampsia antarctica

&lt;400&gt; 22

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Ala Ala Trp Ser Gly Ala Ser Cys Cys Asp Trp Glu Gly Val Ser Cys  
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Asp Gly Ala Ser Gly Arg Val Thr Ala Leu Arg Leu Pro Thr Arg Gly  
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Arg Thr Leu Ala Val Gln Pro Asn Thr Ile Thr Gly Thr Asn Asn Asn  
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Val Arg Ser Gly Ser Asn Asn Val Val Ser Gly Asn Asp Asn Thr Val  
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Ile Ser Gly Asn Arg Asn Ile Val Ser Gly Ser Tyr Asn Thr Val Val  
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Thr Gly Ser Asp Asn Thr Ile Thr Gly Ser Asn His Val Val Ser Gly  
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Lys Asn His Ile Val Thr Asp Asn Asn Ala Val Thr Gly His Asp  
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ggagtaacaa	agtcgtgaca	ggaggttaat	gatcagttag	tggattgttt	ccatcttcac	540
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&lt;210&gt; 38

&lt;211&gt; 223

&lt;212&gt; PRT

&lt;213&gt; Deschampsia antarctica

&lt;400&gt; 38

Met Ala Asn Cys Cys	Leu Leu Leu Leu	Phe Leu Ala Leu Pro	Leu Pro
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Ala Ala Ser Ala Thr Ser Cys Arg	Pro Asp Asp Leu His	Ala Leu Arg
20	25	30

Gly Phe Ala Gly Asn Leu Ser	Gly Gly Val Leu Leu Arg Ser Val
35	40 45

Trp Ser Gly Asp Ser Cys Cys Gly	Trp Glu Gly Val Gly Cys Asp Ser
50	55 60

Ala Ser Gly Arg Val Thr Ala Met Leu Leu Pro Arg His	Gly Leu Ala
65	70 75 80

Lys Pro Val Pro Gly Ala Ser Leu Ala Ser Leu Ala Arg Leu	Glu Glu
85	90 95

Leu Phe Lys Arg Asn Arg Arg Thr	Leu Glu Glu Gln Pro Asn Thr Ile
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Gln Gly Thr Asn Asn Asn Val	Arg Asp Gly Cys Tyr Asn Ala Leu Ser
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Gly Asn Asp Asn Thr Val	Ile Ser Gly Asn Asn Asn Thr Val Ser Gly
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Ser Phe Asn Thr Ile Val Thr Gly Cys His Asn	Thr Val Ser Gly Ser
145	150 155 160

Asn Gln Val Val Ser Gly Leu Asn His Ile Val Thr Asp Asp Asn	Asn
165	170 175

Asp Val Ser Gly Asn Asp Asn Asn Val Ser Gly Ser Phe His Thr Val	
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180 80789771 - agriculture victoria.ST25  
185 190

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210 215 220

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<212> DNA  
<213> Deschampsia antarctica

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tactcttgcc tgcggcgtgc gcaacatcg 60  
gttgcgtccgg aaacctgagc ggccgggggtg tcctccccc 60  
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 <212> DNA  
 <213> Deschampsia antarctica

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 <213> Deschampsia antarctica

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 <213> Deschampsia antarctica  
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<210> 44  
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 <212> DNA  
 <213> Deschampsia antarctica  
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<210> 45

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 <212> DNA  
 <213> Deschampsia antarctica

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<210> 46  
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 <212> PRT  
 <213> Deschampsia antarctica

<400> 46

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Gly Phe Ala Gly Asn Leu Ser Gly Gly Gly Val Leu Pro Arg Ser Val  
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Trp Ser Gly Asp Ser Cys Cys Gly Trp Glu Gly Val Gly Cys Asp Asp  
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Ala Ser Gly Arg Val Thr Thr Met Trp Leu Pro Arg Arg Gly Leu Val  
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Lys Pro Val Pro Gly Ala Ser Leu Ala Gly Val Thr Glu Leu Glu Glu  
 85 90 95

Leu Ile Thr Arg Asn Arg Arg Ala Leu Glu Glu Gln Pro Asn Thr Ile  
 100 105 110

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Gln Gly Thr Asn Asn Asn Val Arg Asp Gly Cys Tyr Asn Ala Leu Ser  
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Gly Asn Asp Asn Thr Val Ile Ser Gly Asn Asn Asn Thr Val Ser Gly  
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Ser Phe Asn Thr Ile Val Thr Gly Cys His Asn Thr Val Ser Gly Ser  
 145 150 155 160

Asn Gln Val Val Ser Gly Leu Asn His Ile Val Thr Asp Asp Asn Asn  
 165 170 175

Asp Val Ser Gly Asn Asp Asn Asn Val Ser Gly Ser Phe His Thr Val  
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<211> 810

<212> DNA

<213> Deschampsia antarctica

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<211> 810

<212> DNA

<213> Deschampsia antarctica

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 <213> Deschampsia antarctica

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<210> 50  
 <211> 810

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<212> DNA  
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 gacaataactg tcataatctgg gaacaacaat gttgtgtctg ggagccacaa cactgtcgta 420  
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 <213> Deschampsia antarctica

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 ggagttcacg tccttgcac agttcagtgt agcttacaat cacatggtag ggccaatcgc 720  
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<210> 53  
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<210> 54  
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 <212> PRT  
 <213> Deschampsia antarctica

<400> 54

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Gly Thr Ile Pro Ser Trp Ile Gly Glu Leu Asp His Leu Cys Tyr Met  
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Asp Leu Ser His Asn Ser Leu Asp Gly Glu Val Pro Lys Ser Leu Gln  
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Ile Arg Leu Arg Ala Leu Thr Thr Thr Gly Arg Ser Leu Gly Met Val  
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Phe Ile Asn Met Pro Leu His Met Lys Arg Ser Arg Arg Thr Leu Gln  
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Glu Gln Pro Asn Val Ile Thr Gly Thr Asn Asn Ser Val Arg Ser Gly  
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Arg Asn Asn Val Val Ser Gly Asn Asp Asn Thr Val Ile Ser Gly Asn  
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Asn Asn Val Val Ser Gly Ser His Asn Thr Val Val Thr Gly Ser Asp  
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Asn Val Val Ser Gly Ser Asn His Val Val Ser Arg Thr Asn His Val  
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Val Thr Asp Asn Asn Ala Val Thr Gly Asn His Asn Thr Val Ser  
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<210> 55  
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 <212> DNA  
 <213> Lolium perenne

<400> 55  
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 <212> DNA  
 <213> Lolium perenne

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<212> DNA

<213> *Lolium perenne*

<400> 57

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<210> 58

<211> 568

<212> DNA

<213> *Lolium perenne*

<400> 58

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 <213> *Lolium perenne*

<400> 59

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<210> 60  
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 <212> DNA  
 <213> *Lolium perenne*

<400> 60

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 <211> 568  
 <212> DNA  
 <213> *Lolium perenne*

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<210> 63  
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 <213> *Lolium perenne*

<400> 63  
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<210> 65  
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 <212> DNA  
 <213> *Lolium perenne*

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<210> 67  
 <211> 568  
 <212> DNA  
 <213> *Lolium perenne*

<400> 67  
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 tccctgggca tggactcgca ggccacatcc caacagcatc cttggctggc cttgcacggc 300  
 tggagtcgct caacctcgcc aacaacaaac tggtcggcac aatccatct tggattggtg 360  
 tgcttgacca cctttgtac ttggatctct caaataattc attgggtggt gagataccaa 420  
 agaatttaca aataaggctc aggtgcctca acatcggtgg tcgttcactg ggcatggctt 480  
 ccactaacat gacattgcag gtgaagcata accaaatagc actaagtggg caaccaaaca 540  
 caataaccgg gaccaataac tatgtcag 568

<210> 68  
 <211> 568  
 <212> DNA  
 <213> *Lolium perenne*

<400> 68  
 cttacatagc tgaaccaatg gagaaaagtt ggttcttgc cttttcttg gcgttcctcc 60  
 tgccggcggc gagcgtggcg gtgtcatgcc accctgatga ctccttgca ctgcgcgggt 120  
 tcgcccgtaa tctcagcaat gggggcgtgc tcctccatgc caagtggccc gacaactctt 180  
 gctgtagttg ggaaggtgtg ggatgcgacg gcggaaagcgg ccgtgtcact acgttgtggc 240  
 tccctgggca tggactcgca ggccacatcc caacagcatc cttggctggc cttgcacggc 300

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tggagtcgct	caacctcgcc	aacaacaaac	tggtcggcac	aatcccatct	tgattgggtg	360
tgcttgacca	cctttgtac	ttggatctct	caaataattc	attgggttgt	gagataccaa	420
agaatttaca	aataaggctc	aggtgcctca	acatcggtgg	tcgttactg	ggcatggctt	480
ccactaacat	gacattgcag	gtgaagcata	accaaatacg	actaagtggg	caaccaaaca	540
caataaccgg	gaccaataac	tatgtcag				568

<210> 69  
<211> 566  
<212> DNA  
<213> *Lolium perenne*

<400> 69	tgtacatagc	tgaaccaatg	gagaaaagtt	ggttcttgc	cctttcttg	gcgttcctcc	60
tttacatagc	tgaaccaatg	gagaaaagtt	ggttcttgc	cctttcttg	gcgttcctcc	120	
tgccggcggc	gagcgtggcg	gtgtcatgcc	accctgatga	cctcccttgca	ctgcgcgggt	180	
tcgcggtaa	tctcagaaat	gggggcgtgc	tcctccatgc	caagtggttc	ggcaactctt	240	
gctgtagttg	ggaaggtgtg	ggatgcgacg	gcggaagcgg	ccgtgtca	acgttgtggc	300	
tccctgggca	tggactcgca	ggccacatcc	caacagcatc	cttggctggc	cttgcacggc	360	
tggagtcgct	caacctcgcc	aacaacaaac	tggtcggcac	aatcccatct	tgattgggtg	420	
tgcttgacca	cctttgtac	ttggatctct	caaataattc	attgggttgt	gagataccaa	480	
agaatttaca	aataaggctc	aggtgcctca	acatcggtgg	tcgttactg	ggcatggctt	540	
ccactaacat	gacattgcag	gtgaagcata	accaaatacg	actaagtggg	caaccaaaca	568	
caataaccgg	gaccaataac	tatgtc					

<210> 70  
<211> 539  
<212> DNA  
<213> *Lolium perenne*

<400> 70	gggcctcaa	catcggttgt	cgttca	tcgttca	gcatggcttc	cactaacatg	acattgcagg	60
tgaagcataa	ccaaatagca	ctaagtgggc	aaccaa	acac	aataaccggg	accaataact		120
atgtcagatc	tgggtcaac	aatgttgtt	ctggga	acca	caacactgtc	acatccggga		180
acaacaatgt	tgtgtctgga	aaccacaaca	ccgtgtctgg	gaccaaccat	gttgtaactg			240
gtaacaacca	tgtcgtaaca	aggaaccaga	atactgtatc	tgggagccat	cataaagtat			300
ctggaggcca	caatactgt	tctggagcc	acaataccgt	atctgaa	gaccaacacag			360
tatctggag	caaccacatc	gtacatggga	acaacaaagt	cgtgacagga	gtttaacaat			420
ctatagagaa	ttgtttccat	attccctaac	ggagttca	tccttgc	agctgggtgt			480
agctaaatat	cacttgg	ggccaa	tttgc	tttgc	tttgc	tttgc	tttgc	539

<210> 71  
<211> 539  
<212> DNA  
<213> *Lolium perenne*

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<400> 71  
 ggtgcctcaa catcggttggt cgttcactgg gcatggcttc cactaacatg acattgcagg 60  
 tgaaggataaa ccaaatacgca ctaagtgggc aaccaaacac aataaccggg accaataact 120  
 atgtcagatc tggggtcaac aatgttgttt ctgggaacca caacactgtc acatccggga 180  
 acaacaatgt tgtgtctgga aaccacaaca ccgtgtctgg gaccaaccat gttgttaactg 240  
 gtaacaacca tgcgttaaca aggaaccaga atactgtatc tgggagccat cataaagtat 300  
 ctggaggcaca caatactgtt tctgggagcc acaataccgt atctgaaagc cacaacacag 360  
 tatctgggag caaccacatc gtacatggga acaacaaagt cgtgacagga gtttaacaat 420  
 ctatagagaa ttgtttccat attccctaac ggagttcacg tccttgtcca agctgggtgt 480  
 agctaaatat cacttggtgg ggccaatggc gttatgttaac ttcgtggata tagcatcac 539

<210> 72  
 <211> 539  
 <212> DNA  
 <213> Lolium perenne

<400> 72  
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 tgaaggataaa ccaaatacgca ctaagtgggc aaccaaacac aataaccggg accaataact 120  
 atgtcagatc tggggtcaac aatgttgttt ctgggaacca caacactgtc acatccggga 180  
 acaacaatgt tgcgttaaca aggaaccaga atactgtatc tgggagccat cataaagtat 240  
 ctggaggcaca caatactgtt tctgggagcc acaataccgt atctgaaagc cacaacacag 300  
 tatctgggag caaccacatc gtacatggga acaacaaagt cgtgacagga gtttaacaat 360  
 ctatagagaa ttgtttccat attccctaac ggagttcacg tccttgtcca agctgggtgt 420  
 agctaaatat cacttggtgg ggccaatggc gttatgttaac ttcgtggata tagcatcac 480  
 539

<210> 73  
 <211> 539  
 <212> DNA  
 <213> Lolium perenne

<400> 73  
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 tgaaggataaa ccaaatacgca ctaagtgggc aaccaaacac aataaccggg accaataact 120  
 atgtcagatc tggggtcaac aatgttgttt ctgggaacca caacactgtc acatccggga 180  
 acaacaatgt tgcgttaaca aggaaccaga atactgtatc tgggagccat cataaagtat 240  
 ctggaggcaca caatactgtt tctgggagcc acaataccgt atctgaaagc cacaacacag 300  
 tatctgggag caaccacatc gtacatggga acaacaaagt cgtgacagga gtttaacaat 360  
 ctatagagaa ttgtttccat attccctaac ggagttcacg tccttgtcca agctgggtgt 420  
 agctaaatat cacttggtgg ggccaatggc gttatgttaac ttcgtggata tagcatcac 480  
 539

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<210> 74  
 <211> 539  
 <212> DNA  
 <213> *Lolium perenne*

<400> 74  
 ggtgcctcaa catcggttggt cgttcaactgg gcatggcttc cactaacatg acattgcagg 60  
 tgaagcataa ccaaatacgca ctaagtgggc aaccggacac aataaccggg accaataact 120  
 atgtcagatc tggggtcaac aatgttggttt ctgggaacca caacactgtc acatccggga 180  
 acaacaatgt tgtgtctgg aaccacaaca ccgtgtctgg gaccaaccat gttgttaactg 240  
 gtaacaacca tgtcgtaaca aggaaccaga atactgtatc tgggagccat cataaagtat 300  
 ctggaggcca caataactgt a tctgggagcc acaataccgt atctggaaagc cacaacacag 360  
 tatctgggag caaccacatc gtacatggga acaacaaagt cgtgacaggg ggttaacaat 420  
 ctatagagaa ttgtttccat attccctaac ggagttcacg tccttgcacca agctgggtgt 480  
 agctaaatat cacttgggtgg gccaatggc gttatgtaac ttctggata tagcatcac 539

<210> 75  
 <211> 323  
 <212> DNA  
 <213> *Lolium perenne*

<400> 75  
 ggtgcctcaa catcggttggt cgttcaactgg gcatggcttc cactaacatg acattgcagg 60  
 tgaagcataa ccaaatacgca ctaagtgggc aaccggacac aataaccggg accaataact 120  
 atgtcagatc tggggtcaac aatgttggttt ctgggaacca caacactgtc acatccggga 180  
 acaacaatgt tgtgtctgg aaccacaaca ccgtgtctgg gaccaaccat gttgttaactg 240  
 gtaacaacca tgtcgtaaca aggaaccaga atactgtatc tgggagccat cataaagtat 300  
 ctggaggcca caataactgt a tctgggagcc acaataccgt atctggaaagc cacaacacag 323

<210> 76  
 <211> 539  
 <212> DNA  
 <213> *Lolium perenne*

<400> 76  
 ggtgcctcaa catcggttggt cgttcaactgg gcatggcttc cactaacatg acattgcagg 60  
 tgaagcataa ccaaatacgca ctaagtgggc aaccggacac aataaccggg accaataact 120  
 atgtcagatc tggggtcaac aatgttggttt ctgggaacca caacactgtc acatccggga 180  
 acaacaatgt tgtgtctgg aaccacaaca ccgtgtctgg gaccaaccat gttgttaactg 240  
 gtaacaacca tgtcgtaaca aggaaccaga atactgtatc tgggagccat cataaagtat 300  
 ctggaggcca caataactgt a tctgggagcc acaataccgt atctggaaagc cacaacacag 360  
 tatctgggag caaccacatc gtacatggga acaacaaagt cgtgacaggg ggttaacaat 420  
 ctatagagaa ttgtttccat attccctaac ggagttcacg tccttgcacca agctgggtgt 480

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 agctaaatat cacttggtgg ggc当地atggc gttatgttaac ttc当地ggata tagcatcac 539

<210> 77  
 <211> 539  
 <212> DNA  
 <213> Lolium perenne

<400> 77  
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 tgaaggataaa ccaaatacgca ctaagtgggc aacc当地aacac aataaccggg accaataact 120  
 atgtcagatc tggggtcaac aatgttgttt ctgggaacca caacactgtc acatccggga 180  
 acaacaatgt tgc当地tggaa aaccacaaca cc当地gtctgg gaccaaccat gttgtaactg 240  
 gtaacaacca tgc当地taaca aggaaccaga atactgtatc tgggagccat cataaagtat 300  
 ctggaggccca caatactgtt tctgggagcc acaataccgt atcttggaaagc cacaacacag 360  
 tatctgggag caaccacatc gtacatggga acaacaaagt cgtgacagga ggttaacaat 420  
 ctatagagaa ttgtttccat attccctaaac ggagttcacg tc当地tgc当地 agctgggtgt 480  
 agctaaatat cacttggtgg ggc当地atggc gttatgttaac ttc当地ggata tagcatcac 539

<210> 78  
 <211> 482  
 <212> DNA  
 <213> Lolium perenne

<400> 78  
 ggtgc当地caa catc当地gggt cgttcactgg gcatggcttc cactaacatg acattgcagg 60  
 tgaaggataaa ccaaatacgca ctaagtgggc aacc当地aacac aataaccggg accaataact 120  
 atgtcagatc tggggtcaac aatgttgttt ctgggaacca caacactgtc acatccggga 180  
 acaacaatgt tgc当地tggaa aaccacaaca cc当地gtctgg gaccaaccat gttgtaactg 240  
 gtaacaacca tgc当地taaca aggaaccaga atactgtatc tgggagccat cataaagtat 300  
 ctggaggccca caatactgtt tctgggagcc acaataccgt atcttggaaagc cacaacacag 360  
 tatctgggag caaccacatc gtacatggga acaacaaagt cgtgacagga ggttaacaat 420  
 ctatagagaa ttgtttccat attccctaaac ggagttcacg tc当地tgc当地 agctgggtgt 480  
 ag

<210> 79  
 <211> 539  
 <212> DNA  
 <213> Lolium perenne

<400> 79  
 ggtgc当地caa catc当地gggt cgttcactgg gcatggcttc cactaacatg acattgcagg 60  
 tgaaggataaa ccaaatacgca ctaagtgggc aacc当地aacac aataaccggg accaataact 120  
 atgtcagatc tggggtcaac aatgttgttt ctgggaacca caacactgtc acatccggga 180  
 acaacaatgt tgc当地tggaa aaccacaaca cc当地gtctgg gaccaaccat gttgtaactg 240  
 gtaacaacca tgc当地taaca aggaaccaga atactgtatc tgggagccat cataaagtat 300

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ctggaggcca caatactgta	tctgggagcc acaataccgt	atctggaagc cacaacacag	360
tatctggag caaccacatc	gtacatggga acaacaaagt	cgtgacagga ggttaacaat	420
ctatagagaa ttgttccat	attccctaac ggagttcacg	tccttgcac agctgggtgt	480
agctaaatat cacttggtgg	ggccaatggc gttatgtaac	ttcgtggata tagcatcac	539

<210> 80  
 <211> 539  
 <212> DNA  
 <213> *Lolium perenne*

<400> 80	ggtgcctcaa catcgttgg	cgttcactag gcatggcttc	cactaacatg acattgcagg	60
tgaagcataa ccaaatacgca	ctaagtggc aaccacac	aataaccggg accaataact	120	
atgtcagatc tgggtcaac	aatgttgtt ctgggaacca	caacactgtc acatccggga	180	
acaacaatgt tgcgtctgga	aaccacaaca ccgtgtctgg	gaccaaccat gttgttaactg	240	
gtaacaaccca tgcgttaaca	aggaaaccaga atactgtatc	tgggagccat cataaaagtat	300	
ctggaggcca caatactgta	tctgggagcc acaataccgt	atctggaagc cacaacacag	360	
tatctggag caaccacatc	gtacatggga acaacaaagt	cgtgacagga ggttaacaat	420	
ctatagagaa ttgttaccat	attccctaac ggagttcacg	tccttgcac agctgggtgt	480	
agctaaatat cacttggtgg	ggccaatggc gttatgtaac	ttcgtggata tagcatcac	539	

<210> 81  
 <211> 218  
 <212> DNA  
 <213> *Lolium perenne*

<400> 81	ggtgcctcaa catcgttgg	cgttcactgg gcatggcttc	cactaacatg acattgcagg	60
tgaagcataa ccaaatacgca	ctaagtggc aaccacac	aataaccggg accaataact	120	
atgtcagatc tgggtcaac	aatgttgtt ctgggaacca	caacactgtc acatccggga	180	
acaacaatgt tgcgtctgga	aaccacaaca ccgtgtct		218	

<210> 82  
 <211> 539  
 <212> DNA  
 <213> *Lolium perenne*

<400> 82	ggtgcctcaa catcgttgg	cgttcactgg gcatggcttc	cactaacatg acattgcagg	60
tgaagcataa ccaaatacgca	ctaagtggc aaccacac	aataaccggg accaataact	120	
atgtcagatc tgggtcaac	aatgttgtt ctgggaacca	caacactgtc acatccggga	180	
acaacaatgt tgcgtctgga	aaccacaaca ccgtgtctgg	gaccaaccat gttgttaactg	240	
gtaacaaccca tgcgttaaca	aggaaaccaga atactgtatc	tgggagccat cataaaagtat	300	
ctggaggcca caatactgta	tctgggagcc acaataccgt	atctggaagc cacaacacag	360	

WO 20

tatctggag	80789771 - agriculture victoria.ST25 gtacatggga acaaacaagt cgtgacagga gtttacaat	420
ctatagagaa	attccctaac ggagttcacg tccttgcac agctgggtgt	480
agctaaatat	ggccaatggc gttatgttaac ttcgtggata tagcatcac	539

<210> 83  
<211> 539  
<212> DNA  
<213> Lolium

<400> 83	9gtgcctcaa cat cgttcactgg gcatggcttc cactaacatg acattgcagg	60
tgaagcataa ccaa ctaagtgggc aaccaaacac aataaccggg accaataact	120	
atgtcagatc tggc aatgttgttt ctgggaacca caacactgtc acatccggga	180	
acaacaatgt tggta aaccacaaca ccgtgtctgg gaccaaccat gttgttaactg	240	
gtaacaacca tggta aggaaccaga atactgtatc tgggagccat cataaagtat	300	
ctggaggcca caata a tctgggagcc acaataccgt atctggaaagc cacaacacag	360	
tatctggag caacc gtagatggga acaacaagt cgtgacagga gtttacaat	420	
ctatagagaa ttgttt attccctaac ggagttcacg tccttgcac agctgggtgt	480	
agctaaatat cacttg ggccaatggc gttatgttaac ttcgtggata tagcatcac	539	

<210> 84  
<211> 539  
<212> DNA  
<213> Lolium perenne

<400> 84	9gtgcctcaa catcggttggt cggttactgg gcatggcttc cactaacatg acattgcagg	60
tgaagcataa ccaaatacgca ctaagtgggc aaccaaacac aataaccggg accaataact	120	
atgtcagatc tgggtcaac aatgttgttt ctgggaacca caacactgtc acatccggga	180	
acaacaatgt tgggtctgg aaccacaaca ccgtgtctgg gaccaaccat gttgttaactg	240	
gtaacaacca tggtaacca aggaaccaga atactgtatc tgggagccat cataaagtat	300	
ctggaggcca caataactgt a tctgggagcc acaataccgt atctggaaagc cacaacacag	360	
tatctggag caaccacatc gtagatggga acaacaagt cgtgacagga gtttacaat	420	
ctatagagaa ttgtttccat attccctaac ggagttcacg tccttgcac agctgggtgt	480	
agctaaatat cacttggtgg ggccaatggc gttatgttaac ttcgtggata tagcatcac	539	

<210> 85  
<211> 539  
<212> DNA  
<213> Lolium perenne

<400> 85	9gtgcctcaa catcggttggt cggttactgg gcatggcttc cactaacatg acattgcagg	60
tgaagcataa ccaaatacgca ctaagtgggc aaccaaacac aataaccggg accaataact	120	
atgtcagatc tgggtcaac aatgttgttt ctgggaacca caacactgtc acatccggga	180	

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acaacaatgt	tgtgtctgga	aaccacaaca	ccgtgtctgg	gaccaaccat	gttgtaactg	240
gtaacaacca	tgtcgtaaca	aggaaccaga	atactgtatc	tgggagccat	cataaaagtat	300
ctggaggcca	caatactgta	tctgggagcc	acaataccgt	atctggaagc	cacaacacag	360
tatctggag	caaccacatc	gtacatggga	acaacaaagt	cgtgacagga	ggttaacaat	420
ctatagagaa	ttgtttccat	attccctaac	ggagttcacg	tccttgcac	agctgggtgt	480
agctaaatat	cacttggtgg	ggccaatggc	gttatgtaac	ttcgtggata	tagcatcac	539

&lt;210&gt; 86

&lt;211&gt; 524

&lt;212&gt; DNA

<213> *Lolium perenne*

&lt;400&gt; 86

gggcctcaa	catcggttgg	cgttcaactgg	gcatggcttc	cactaacatg	acattgcagg	60
tgaaggataa	ccaaatagca	ctaagtgggc	aaccaaacac	aataaccggg	accaataact	120
atgtcagatc	tgggtcaac	aatgttgttt	ctgggaacca	caacactgtc	acatccggga	180
acaacaatgt	tgtgtctgga	aaccacaaca	ccgtgtctgg	gaccaaccat	gttgtaactg	240
gtaacaacca	tgtcgtaaca	aggaaccaga	atactgtatc	tgggagccat	cataaaagtat	300
ctggaggcca	caatactgta	tctgggagcc	acaataccgt	atctggaagc	cacaacacag	360
tatctggag	caaccacatc	gtacatggga	acaacaaagt	cgtgacagga	ggttaacaat	420
ctatagagaa	ttgtttccat	attccctaac	ggagttcacg	tccttgcac	agctgggtgt	480
agctaaatat	cacttggtgg	ggccaatggc	gttatgtaac	ttcgtggata	tagcatcac	524

&lt;210&gt; 87

&lt;211&gt; 539

&lt;212&gt; DNA

<213> *Lolium perenne*

&lt;400&gt; 87

gggcctcaa	catcggttgg	cgttcaactgg	gcatggcttc	cactaacatg	acattgcagg	60
tgaaggataa	ccaaatagca	ctaagtgggc	aaccaaacac	aataaccggg	accaataact	120
atgtcagatc	tgggtcaac	aatgttgttt	ctgggaacca	caacactgtc	acatccggga	180
acaacaatgt	tgtgtctgga	aaccacaaca	ccgtgtctgg	gaccaaccat	gttgtaactg	240
gtaacaacca	tgtcgtaaca	aggaaccaga	atactgtatc	tgggagccat	cataaaagtat	300
ctggaggcca	caatactgta	tctgggagcc	acaataccgt	atctggaagc	cacaacacag	360
tatctggag	caaccacatc	gtacatggga	acaacaaagt	cgtgacagga	ggttaacaat	420
ctatagagaa	ttgtttccat	attccctaac	ggagttcacg	tccttgcac	agctgggtgt	480
agctaaatat	cacttggtgg	ggccaatggc	gttatgtaac	ttcgtggata	tagcatcac	539

&lt;210&gt; 88

&lt;211&gt; 539

&lt;212&gt; DNA

<213> *Lolium perenne*

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<400> 88  
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 atgtcagatc tggggtcaac aatgttgttt ctgggaacca caacactgtc acatccggga 180  
 acaacaatgt tgtgtctgga aaccacaaca ccgtgtctgg gaccaaccat gttgttaactg 240  
 gtaacaacca tgtcgtaaca aggaaccaga atactgtatc tgggagccat cataaagtat 300  
 ctggaggcca caataactgt a tctgggagcc acaataccgt atctggaagc cacaacacag 360  
 tatctgggag caaccacatc gtacatggga acaacaaagt cgtgacagga ggttaacaat 420  
 ctatagagaa ttgtttccat attccctaac ggagttcacg tccttgcac agctgggtgt 480  
 agctaaatat cacttggtgg ggccaaatggc gttatgttaac ttcgtggata tagcatcac 539

<210> 89  
 <211> 539  
 <212> DNA  
 <213> *Lolium perenne*  
 <400> 89  
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 tgaaggataa ccaaatacgca ctaagtgggc aacccaaacac aataaccggg accaataact 120  
 atgtcagatc tggggtcaac aatgttgttt ctgggaacca caacactgtc acatccggga 180  
 acaacaatgt tgtgtctgga aaccacaaca ccgtgtctgg gaccaaccat gttgttaactg 240  
 gtaacaacca tgtcgtaaca aggaaccaga atactgtatc tgggagccat cataaagtat 300  
 ctggaggcca caataactgt a tctgggagcc acaataccgt atctggaagc cacaacacag 360  
 tatctgggag caaccacatc gtacatggga acaacaaagt cgtgacagga ggttaacaat 420  
 ctatagagaa ttgtttccat attccctaac ggagttcacg tccttgcac agctgggtgt 480  
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 <212> DNA  
 <213> *Lolium perenne*

<400> 93  
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 <213> *Lolium perenne*

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<213> *Lolium perenne*

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&lt;211&gt; 526

&lt;212&gt; DNA

<213> *Lolium perenne*

&lt;400&gt; 99

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&lt;211&gt; 399

&lt;212&gt; DNA

<213> *Lolium perenne*

&lt;400&gt; 100

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&lt;210&gt; 101

&lt;211&gt; 1391

&lt;212&gt; DNA

<213> *Lolium perenne*

&lt;400&gt; 101

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&lt;210&gt; 102

&lt;211&gt; 279

&lt;212&gt; PRT

<213> *Lolium perenne*

&lt;400&gt; 102

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Arg	Gly	Phe	Ala	Gly	Asn	Leu	Ser	Asn	Gly	Gly	Val	Leu	Leu	His	Ala
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Lys	Trp	Pro	Asp	Asn	Ser	Cys	Cys	Ser	Trp	Glu	Gly	Val	Gly	Cys	Asp
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Gly	Gly	Ser	Gly	Arg	Val	Thr	Thr	Leu	Trp	Leu	Pro	Gly	His	Gly	Leu
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Ala	Gly	His	Ile	Pro	Thr	Ala	Ser	Leu	Ala	Gly	Leu	Ala	Arg	Leu	Glu
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Ile	Gly	Val	Leu	Asp	His	Leu	Cys	Tyr	Leu	Asp	Leu	Ser	Asn	Asn	Ser

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145	150	155 160
165	170	175
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tgcttgacca cctttctac ttggatctct caaataattc attggtttgt gagataaccca	420	
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 gcttcgtggg catggactcg caggccacat cccaaacagca tccttggctg gccttgcacg 240  
 gctggagtcg ctcaaccctcg ccaacaacaa actggtcggc acaatcccat catggatggg 300

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&lt;210&gt; 120

&lt;211&gt; 279

&lt;212&gt; PRT

&lt;213&gt; Lolium perenne

&lt;400&gt; 120

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Arg	Gly	Phe	Ala	Gly	Asn	Leu	Ser	Asn	Gly	Gly	Val	Leu	Leu	His	Ala
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Lys	Trp	Phe	Gly	Asn	Ser	Cys	Cys	Ser	Trp	Glu	Gly	Val	Gly	Cys	Asp
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Gly	Gly	Ser	Gly	Arg	Val	Thr	Thr	Leu	Trp	Leu	Arg	Gly	His	Gly	Leu
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Ala	Gly	His	Ile	Pro	Thr	Ala	Ser	Leu	Ala	Gly	Leu	Ala	Arg	Leu	Glu
	85					90				95					

Ser	Leu	Asn	Leu	Ala	Asn	Asn	Lys	Leu	Val	Gly	Thr	Ile	Pro	Ser	Trp
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Met Gly Val Leu Asp His Leu Cys Tyr Leu Asp Leu Ser Asn Asn Ser  
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Leu Val Gly Glu Ile Pro Lys Asn Leu Gln Arg Arg Leu Ser Cys Pro  
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Asn Ile Val Gly His Ser Leu Gly Thr Ala Ser Thr Asn Met Pro Leu  
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Gln Val Lys His Asn Gln Ile Ala Leu Ser Gly Gln Pro Asn Thr Ile  
 165 170 175

Thr Gly Thr Asn Asn Tyr Val Arg Ser Gly Val Asn Asn Val Val Ser  
 180 185 190

Gly Asn His Asn Thr Val Thr Ser Gly Asn Asn Asn Val Val Ser Gly  
 195 200 205

Asn His Asn Thr Val Ser Gly Thr Asn His Val Val Thr Gly Asn Asn  
 210 215 220

His Val Val Thr Arg Asn Gln Asn Thr Val Ser Gly Ser His His Lys  
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Val Ser Gly Gly His Asn Thr Val Ser Gly Ser His Asn Thr Val Ser  
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Asn Lys Val Val Thr Gly Gly  
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&lt;213&gt; Deschampsia antarctica

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&lt;211&gt; 420

&lt;212&gt; DNA

&lt;213&gt; Lolium perenne

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 <211> 118  
 <212> PRT  
 <213> *Lolium perenne*

<400> 124

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Asp Asn Asn Ser Val Ser Gly Ser Asn Asn Thr Val Val Ser Gly Asn  
 35 40 45

Asp Asn Thr Val Thr Gly Ser Asn His Val Val Ser Gly Thr Asn His  
 50 55 60

Ile Val Thr Asp Asn Asn Asn Val Ser Gly Asn Asp Asn Asn Val  
 65 70 75 80

Ser Gly Ser Phe His Thr Val Ser Gly Gly His Asn Thr Val Ser Gly  
 85 90 95

Ser Asn Asn Thr Val Ser Gly Ser Asn His Val Val Ser Gly Ser Asn  
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Lys Val Val Thr Asp Ala  
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<210> 125  
 <211> 285  
 <212> PRT  
 <213> *Triticum aestivum*

<400> 125

Met Ala Lys Cys Gly Leu Leu Leu Phe Leu Ala Phe Leu Leu Pro  
 1 5 10 15

Ala Ala Arg Ala Thr Ser Cys His Pro Asp Asp Leu Arg Ala Leu Arg  
 20 25 30

Gly Phe Ala Gly Asn Leu Ser Gly Gly Ala Ala Leu Leu Arg Ala Ala  
 35 40 45

Trp Ser Gly Ala Ser Cys Cys Val Trp Glu Gly Val Asn Cys Asp Gly  
 50 55 60

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 Thr Ser Gly Arg Val Thr Ala Leu Arg Leu Pro Gly His Gly Leu Val  
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Gly Leu Ile Pro Gly Ala Ser Leu Ala Gly Leu Ala Arg Leu Glu Glu  
 85 90 95

Leu Asn Leu Ala Asn Asn Lys Leu Val Gly Thr Ile Pro Ser Trp Ile  
 100 105 110

Gly Glu Leu Asp His Leu Cys Tyr Leu Asp Leu Ser Asp Asn Ser Leu  
 115 120 125

Val Gly Glu Val Pro Lys Ser Leu Ile Arg Leu Lys Gly Leu Val Ile  
 130 135 140

Ala Gly His Ser Leu Gly Met Val Phe Thr Asn Met Pro Leu Tyr Val  
 145 150 155 160

Lys Arg Asn Arg Arg Thr Leu Asp Glu Glu Pro Asn Thr Ile Ser Gly  
 165 170 175

Ser Asn Asn Thr Val Arg Ser Gly Ser Thr Asn Val Val Ser Gly Asn  
 180 185 190

Asp Asn Thr Val Ile Ser Gly Asn Asn Asn Asn Val Ala Gly Ser Asn  
 195 200 205

Asn Thr Val Ile Thr Gly Asn Asp Asn Thr Val Thr Gly Ser Asn His  
 210 215 220

Val Val Ser Gly Asp Lys His Ile Val Thr Asp Asn Asn Asn Ala Val  
 225 230 235 240

Ser Gly Asn Asp Asn Asn Val Ser Gly Ser Phe His Thr Val Ser Gly  
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Ser His Asn Thr Val Ser Gly Thr Asn Asn Thr Val Ser Gly Ser Asn  
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His Val Val Ser Gly Ser Asn Lys Val Val Gly Asp Glu  
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<210> 126

<211> 430

<212> PRT

<213> Hordeum vulgare

<400> 126

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 1 5 10 15

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Trp Ser Gly Ala Ser Cys Cys Asp Trp Glu Gly Val Gly Cys Asp Gly  
 50 55 60

Ala Thr Gly Arg Val Thr Ala Leu Arg Leu Pro Gly His Gly Leu Ala  
 65 70 75 80

Gly Pro Ile Pro Gly Ala Ser Leu Ala Gly Leu Val Trp Leu Glu Glu  
 85 90 95

Leu Phe Leu Gly Ser Asn Ser Phe Val Gly Val Leu Pro Asp Glu Leu  
 100 105 110

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Ser Gly Phe Leu Pro Pro Ser Leu Ala Ser Leu Ser Ser Leu Arg Glu  
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Thr Val Gly Thr Ser Pro Gly Ile Ala Leu Ser Asn Leu Pro Leu Tyr  
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Gly Thr Asn Asn Thr Val Arg Ser Gly Arg Asn Asn Thr Met Ser Gly  
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His Val Val Ser Gly Ser Asn His Ile Val Thr Asn Ser Tyr Asn Lys  
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Val Ser Gly Cys Thr Asn Asn Val Ser Gly Ser Asn His Thr Val Ser  
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